METHODS AND SYSTEMS FOR CLOCK SYNCHRONIZATION ACROSS WIRELESS NETWORKS

ABSTRACT OF THE DISCLOSURE

A wireless local access network includes a hierarchy of access points and mobile devices capable of roaming among the access points. Communications in the network is based on a time division approach, such as a Time Division Multiple Access (TDMA) approach, or spread-spectrum wireless communications approach. An access point that is intermediary in the hierarchy is a slave to a higher level master access point in the hierarchy. The intermediary access point is also master to one or more lower level access points. The intermediary access point synchronizes its clock with its master, and then provides the same synchronization (e.g., clock offset) to any lower level slaves of the intermediary access point so that the lower level slaves can synchronize with the intermediary access point. Thus, the lower level slaves share synchronization with the intermediary access point and the higher level master access point. A mobile device that is attached to one access point (such as the higher level master access point) is able to transfer to another access point (such as a lower level access point) without being required to resynchronize the mobile device's clock.